APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/881,734	06/18/2001	A. Scott Hollums	1875.0700002	8770

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EXAMINER
PHAN, MAN U

ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/881,734	HOLLUMS ET AL.
	Examiner	Art Unit	
	Man Phan	2665	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 September 2005*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

Response to Amendment and Argument

1.   This communication is in response to applicant's 09/26/2005 response in the application

of Hollums et al. for a "System, method and computer program product for scheduling burst

profile changes based on minislot count" filed 06/18/200. This application claims Priority from

Provisional Application 60261273 filed 01/12/2001. The amendment and response has been

entered and made of record. Claims 1, 5have been amended. Claims 1-15 are pending in the

application.

2.   Applicant's amendment to the rejected claims are insufficient to distinguish the claimed

invention from the cited prior arts or overcome the rejection of said claims under 35 U.S.C. 103

as discussed below. Applicant's remarks with respect to the pending claims have been fully

considered, but they are not persuasive for at least the following reasons.

3.   Applicant's argument with respect to the rejected claims 1 and 8 (page 8, second

paragraph) that the cited reference *"does not describe a serial interface (or any other interface*

for that matter) that stores a predetermined changeover time". However, a serial peripheral

interface (SPI) is employed to control the interface between MAC layer components and PHY

layer components for a mutual data transmission. Such an interface employs handshaking as a

way of transmitting and receiving signals such as an information request, a transmission check, a

reception check, and the like to perform the mutual data transmission. As disclosed in Fig. 2 of

Yen et al. (US#2002/0064155), which illustrates the structure of the PHY apparatus 20 includes

an interface 21 which connects the PHY apparatus 20 and the MAC device 30 for enabling data

transmission between the PHY apparatus 20 and the MAC device 30 (the SPI master port can be

used to control the interface between the MAC and upstream receiver and/or between the MAC

and downstream modulator), shown in Fig. 3. Furthermore, the PHY apparatus 20 includes a

state machine 25, a memory 22, a data processing device 23 and a register set 24. The memory

22 stores a specific warning data which warns the MAC device 30 about a change, if any, of the

transmission configuration of the PHY apparatus 20.   Fig. 3 schematically illustrates the circuit

of the PHY apparatus 20 connecting to the MAC device 30 under the normal mode. Under the

normal operation mode, the MAC device 30 and the PHY apparatus 20 both have the same

transmission configuration. Meanwhile, the general data from LAN (not shown) is transmitted to

the data processing device 23 through a transceiver 31, which is connected to the LAN. The state

machine 25 enables the connection between the data processing device 23 and the interface 21.

Therefore, the general data from the data processing device 23 are relayed to the interface 21,

and the interface 21 sends the general data to the MAC device 30 for further processes ([0018]-

[0022]).

Therefore, the Examiner maintains that the references cited and applied in the last office

actions for the rejection of the claims are maintained in this office action.

Claim Rejections - 35 USC ' 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth

in section 102 of this title, if the differences between the subject matter sought to be patented and the

prior art are such that the subject matter as a whole would have been obvious at the time the invention

was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability

shall not be negatived by the manner in which the invention was made.

5.   This application currently names joint inventors. In considering patentability of the claims

under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims

was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c)

and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6.   Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yen et al.

(US#2002/0064155) in view of Cole (US#6,714,589).

        With respect to claims 1-4, Yen et al. (US#2002/0064155) and Cole (US#6,714,589)

disclose a novel system and method for changing upstream physical layer parameters in a

head-end physical layer device of a communication system, according to the essential features

of the claims. Yen et al. discloses in Fig. 2 a block diagram illustrated a PHY signal control

device 20, which detects changes of the external transmission, updates itself and, meanwhile,

notifies the MAC device to update the transmission configuration. When MAC device

receives the specific warning data, it checks the current transmission configuration of the

PHY apparatus and updates its configuration accordingly. Thus the PHY apparatus and the

MAC device operates under the same transmission configuration without transmission error.

Furthermore, the PHY apparatus alerts the MAC device only if the external transmission

configuration has changed. In this way, the performance downgrade issue of the conventional

technique will be solved. In the Yen's system, the PHY apparatus mainly includes a first

device and a second device. The first device is used to connect the PHY apparatus and the

MAC device, and to enable data transmission between the PHY apparatus and the MAC

device. The second device is used to control the first device to selectively transfer the general

data from LAN or the warning data generated by the PHY apparatus to the MAC device.

Thus, when the external transmission configuration switches, the PHY apparatus soon

becomes alert and adjusts to the current transmission configuration. Afterwards, it sends a

specific warning data to the MAC device by means of the second device. In response, the

MAC device changes its transmission configuration. So the PHY apparatus and the MAC

device work with each other under the same transmission configuration as the external device.

Consequently, the MAC device doesn't have to monitor the PHY apparatus all the time, and a

performance downgrade is avoided. The PHY apparatus further includes a third device, a

fourth device and a fifth device. The third device is used to store the specific warning data,

the fourth device records the current transmission configuration over the LAN, and the fifth

device handles general data from LAN and relays the data to the MAC device through the

first device and the second device (Fig. 3; [0009], [0018]).

However, Yen et al. does not disclose expressly the step of sending the parameters to

the physical layer device at a predetermined time. In the same field of endeavor, Cole

discloses a communication device that employs a synchronous primitive signal for

coordinating synchronous events, in which a synchronization unit adapted to receive a

primitive synchronization signal and change at least one of the physical layer operating

parameters at a first time instant determined based on receipt of the primitive synchronization

signal. Cole's communication system includes a first modem and a second modem. The first

modem is adapted to modulate and demodulate data in accordance with a set of operating

parameters and transmit a request to change one of the operating parameters. The second

modem is coupled to the first modem and adapted to modulate and demodulate data in

accordance with the set of operating parameters, receive the request to change one of the

operating parameters, and send a primitive synchronization signal to the first modem. The

first modem is adapted to implement the change in response to receiving the primitive

synchronization signal. A method for communicating messages requiring synchronization

includes receiving symbols in a modem; analyzing the symbols to identify a primitive

synchronization signal; and modifying a physical layer operating parameter of the modem in

response to identifying the primitive synchronization signal (See Fig. 3; Col. 3, lines 36 plus).

   With respect to claim 5, Yen et al. further teach in Fig. 5 a schematic diagram illustrated

how PHY apparatus is connected to the driver in the MAC device, in which the register set 24

records the current transmission configuration of the PHY device 20, and the current

transmission configuration can be read by the driver 51 connected to the MAC device 30

([0022]-[0023]).

Regarding claims 8, 10, 12, 13, they are method claims corresponding to the system

claims 1-5 above. Therefore, claims 8, 10, 12, 13 are analyzed and rejected as previously

discussed with respect to claims 1-5.

One skilled in the art would have recognized the need for effectively and efficiently

changing one or more PHY parameters as configured in a PHY device, and would have

applied Cole's teaching of a synchronization unit adapted to receive a primitive

synchronization signal and change at least one of the physical layer operating parameters at a

first time instant determined based on receipt of the primitive synchronization signal into

Yen's novel use of a PHY signal control device. Therefore, It would have been obvious to a

person of ordinary skill in the art at the time of the invention was made to apply Cole's

communication device with primitive synchronization signal into Yen's PHY signal control

device and method for selectively generating a specific warning data with the motivation

being to provide a method and system for changing PHY parameters in a PHY device of a

communication system.

7.   Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yen et al.

(US#2002/0064155) in view of Cole (US#6,714,589) as applied to the claims above, and

further in view of Denney et al. (US#2002/0093935).

With respect to claims 6-7, Yen et al. (US#2002/0064155) and Cole (US#6,714,589)

disclose the claimed limitations discussed in paragraph 6 above.   However, these claims

differ from the claims above in that the claims require the feature of a channel identifier,

which corresponds to a communications channel to which the parameters pertain; and the

PHY parameters correspond to a burst profile. In the same field of endeavor, Denney et al.

(US#2002/0093935) discloses in Figs. 3A&B the flow charts illustrated the synchronization

process between a head end and a set of remote devices, according to DOCSIS, in which at

the step 335, the headend sends a MAP message to all associated remotes, identifying the

starting point, in the upstream, of an IMR. The starting point can be identified in terms of a

specific minislot. In step 340, each remote receives the MAP message. In step 345, when a

remote's minislot count matches the minislot identified in the MAP message, the remote sends

a burst transmission to the headend in response. A burst used in this context, for establishing

synchronization, is known as a ranging burst. In step 350, a burst demodulator in the headend

compares the arrival time of the ranging burst with the expected arrival time of the burst. In

step 355, the headend instructs the remote to adjust its (the remote's) local clock by the time

difference. Once the remote does so, the synchronization process concludes at step 360 (See

also Figs. 6A&B, [0040]-[0051]).

Regarding claims 9, 11, 14, 15, they are method claims corresponding to the system

claims 6, 7 above. Therefore, claims 9, 11, 14, 15 are analyzed and rejected as previously

discussed with respect to claims 6, 7.

One skilled in the art would have recognized the need for effectively and efficiently

changing one or more PHY parameters as configured in a PHY device, and would have

applied Denney's teaching of the synchronization between a head end and remote devices

using time offset to minislot clock and count in headend devices, and Cole's teaching of a

synchronization unit adapted to receive a primitive synchronization signal and change at least

one of the physical layer operating parameters at a first time instant determined based on

receipt of the primitive synchronization signal into Yen's novel use of a PHY signal control

device. Therefore, It would have been obvious to a person of ordinary skill in the art at the

time of the invention was made to apply Denney's method and system for providing time

offset to minislot clock and count in headend devices, and Cole's communication device with

primitive synchronization signal into Yen's PHY signal control device and method for

selectively generating a specific warning data with the motivation being to provide a method

and system for changing PHY parameters in a PHY device of a communication system.

Conclusion

8.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

The Bisceglia et al. (US#6,275,498) is cited to show extended PHY addressing.

The Quigley et al. (US#6,650,624) is cited to show the cable modem apparatus and

method.

The Quigley et al. (US#6,961,314) is cited to show the burst receiver for cable modem

system..

The Quigley et al. (US#6,965,616) is cited to show the network data transmission

synchronization system and method.

The Quigley et al. (US#2001/0055319) is cited to show the robust technique for optimal

upstream communication between cable modem subscribers and a headend.

9.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP ' 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

        A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR

1.136(a) will be calculated from the mailing date of the advisory action. In no event, however,

will the statutory period for reply expire later than SIX MONTHS from the mailing date of this

final action.

10.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to M. Phan whose telephone number is (571) 272-3149. The

examiner can normally be reached on Mon - Fri from 6:00 to 3:00.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Huy Vu, can be reached on (571) 272-3155. The fax phone number for the

organization where this application or proceeding is assigned is (703) 305-3988. Any inquiry of

a general nature or relating to the status of this application or proceeding should be directed to

the receptionist whose telephone number is (571) 272-2600.

11.   Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status information for

unpublished applications is available through Private PAIR only. For more information about

the PAIR system, see http://pair-direct.uspto.gov. Should you have any questions on access to

the Private PAIR system, contact the Electronic Business Center (EBC) at toll free 1-866-217-

9197.

Mphan

Dec 09, 2005

MAN U. PHAN
PRIMARY EXAMINER